UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/728,084 | 12/03/2003 | Pentti Juhani Eromaki | 4447-67437-01 | 7665 |

24197 7590 10/02/2008

KLARQUIST SPARKMAN, LLP
121 SW SALMON STREET
SUITE 1600
PORTLAND, OR 97204

| EXAMINER | |
|---|---|
| MAKI, STEVEN D | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1791 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 10/02/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/728,084 | EROMAKI, PENTTI JUHANI | |
| | Examiner | Art Unit | |
| | Steven D. Maki | 1791 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *6-30-08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *063008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-30-08 has been entered.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 1-37 and 40-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 16, the description of "an installation tool by which said anti-slip stud is installed in said tread" and "said jaw fingers being charged by a radial force against each other" renders the scope of the claimed combination uncertain because "is installed" and "being charged" relate to method steps instead of capability of a combination. In each of claims 1 and 16, it is suggested to (1) change "is installed" to --can be installed-- and (2) change "being charged" to --being capable of being charged--.

4) The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5) Claims 1-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claims 1, 16, 38 and 39, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the **new matter**) is the subject matter of the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space. It is noted that the initial stud orientation in claim 39 corresponds to the first stud orientation in claims 1, 16 and 38.

The above noted subject matter requires studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool. See Eromaki 132 declaration filed 6-30-08 and Juhala 132 declaration filed 6-30-08. The "random positions" described by Eromaki and Juhala are critical for orienting a stud by rotating the stud as the stud is driven through the stud capturing space. Rotation of the stud as it is driven through the stud capturing device is

impossible if the stud is not in a random position in the stud capturing space. The original disclosure fails to disclose, teach or suggest studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool, and consequently, *cannot reasonably convey* the STEP of orienting a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space or the CAPABILITY of a combination to perform the step of orienting a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space. In the Eromaki 132 declaration filed 6-30-08, Eromaki describes obtaining "random positions" using an **opening of the installation tool having (1) a width larger than the width of the studs and (2) a generally circular cross sectional form**. This subject matter described by Eromaki *is not found in the original disclosure* and cannot therefore be relied upon to support the subject matter of studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool which is necessary for support the subject matter of the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space. In short, if the first stud orientation never differs, rotation of the stud relative to the jaw fingers as the stud is driven through the capturing space will never occur.

According to the original disclosure, the combination of the shape of the bottom flange and installation tool having different number of fingers attain orientation relative to the rotational axis line of the tire (*in contrast with relative to the jaw fingers*) by (1) rotating the fingers or (2) changing the type of stud used. The combination of the shape of the bottom flange of the stud and installation tool having different number of fingers is *key* in the fist embodiment because, *when the tool is rotated*, a different orientation of the stud with respect to the rotational axis line of the tire is attained. The combination of the shape of the bottom flange of the stud and installation tool having different number of fingers is *key* in the second embodiment because *when different stud types are used*, a different orientation of the cermet piece of the stud with respect to the rotational axis line of the tire is attained. Description of the combination of the shape of the bottom flange and installation tool having different number of fingers fails to support **random orientations** of the stud in the stud capturing space. The provision of **random orientations** in the stud capturing space is critical and absolutely essential for the step of orienting a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space. <u>If the stud is always in the correct orientation in the stud capturing space (i.e. not in a random orientation), then there can never be orientation a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space</u>.

There is no explicit support for the above noted subject matter in the original disclosure. Moreover, there is insufficient information in the original disclosure to conclude that (1) the anti-slip stud entering "stud capturing space" may have a "first

orientation" different from the predetermined stud orientation and/or (2) the part(s) of the stud installation tool not shown permit(s) rotation of the stud at any time during installation. The original disclosure fails to reasonably convey that applicant had possession of the claimed possibly different first orientation ("random position"). Figures 15 16A, 16B, 16C, 16D fail to teach that the stud 20 can rotate at any location above the distal ends of the tip portions of the fingers. The capability to rotate is not inherent in Figures 15 16A, 16B, 16C, 16D because the detail of complete structure of the installation tool including any guide means, feeding means or larger width generally circular opening is not shown. When viewed as a whole, the original disclosure fails to establish that applicant contemplated the capability of the stud to rotate (e.g. at least 360 degrees relative to the jaw fingers) as it moves as shown in Figures 16A, 16B, 16C and 16D.

Figure 15, page 5 lines 22-24, page 16 lines 13-15 and page 19 lines 8-9 and Figures 16A-16D fail to teach the stud having a different first orientation at a location before the tips of the jaw fingers. The description of "the first type of bottom flange configuration is utilized together with the jaw fingers of [the] installation tool to attain a predetermined orientation of the studs" at page 5 lines 22-24 is consistent with the disclosed step of rotating the fingers to orient the studs.

The original disclosure describes feeding an anti-slip stud 20 by means of a plunger (page 19). Figures 16A-16D illustrate the stud being fed from a location above the top point 15 of the jaw fingers 3, 4, 5, 6 (figure 16A) to a location in the hole in the tread (figure 16D). Figures 16A-16D fail to illustrate rotation of the stud. This feeding

arrangement shown in figures 16A to 16D of the original disclosure is substantially the same as that shown in figures 3-5 of Petterson. In figures 3-5, Petterson shows guiding the plunger 22 and a stud using a sleeve 25. However, the original disclosure fails to illustrate and/or describe what tool structure is used to feed the stud to the location illustrated in figure 16A. The original disclosure also fails to illustrate and/or describe what tool structure is used to guide the plunger 11 shown in figures 16A and 16D. Since the specification is silent as to tool structure used to feed the studs to the fingers and/or guide the plunger, it would be speculation to conclude that the orientation of the stud changes as the stud is being driven through the stud capturing space.

It is acknowledged that the original disclosure describes installing studs in a tire tread such that they are in a predetermined stud orientation with respect to the rotational axis of the tire. However, the original disclosure teaches obtaining this result either by rotating the fingers of the installation tool or using studs having different cermet piece orientations instead of by changing the orientation of the stud as the stud is driven through the stud capturing space.

In summary, the subject matter of

> the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space

is not inherent in the original disclosure. It is emphasized that a different first stud orientation is not inherent and consequently, the capability of the stud to rotate from a

different stud orientation to a predetermined stud orientation is not inherent. The mere fact that a certain thing (rotation) may result from a given set of circumstances (freedom to rotate and different first stud orientation) is not sufficient to establish inherency. See MPEP 2163.07(a). The claims require a first stud orientation which may be different than the predetermined stud orientation. In other words, the claims require a "random position" as described by Eromaki in the 132 declaration filed 6-30-08. The original disclosure fails to show that applicant had possession of a first stud orientation which may be different than the predetermined stud orientation. Furthermore, the freedom of the stud to rotate between the fingers is required by the claims. The original disclosure fails to show that applicant had possession of the freedom of the stud to rotate between the fingers

6) Claims 1-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 1, 16, 38 and 39, the subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention (i.e. **the non-enabled subject matter**) is the subject matter of the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud

is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space. It is noted that the initial stud orientation in claim 39 corresponds to the first stud orientation in claims 1, 16 and 38.

The above noted subject matter requires studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool. See Eromaki 132 declaration filed 6-30-08 and Juhala 132 declaration filed 6-30-08. The "random positions" described by Eromaki and Juhala are critical for orienting a stud by rotating the stud as the stud is driven through the stud capturing space. Rotation of the stud as it is driven through the stud capturing device is impossible if the stud is not in a random position in the stud capturing space. The original disclosure fails to disclose, teach or suggest studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool, and consequently, *cannot enable* the STEP of orienting a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space or the CAPABILITY of a combination to perform the step of orienting a stud by rotating the stud relative to the jaw fingers as the stud is driven through the stud capturing space. In the Eromaki 132 declaration filed 6-30-08, Eromaki describes obtaining "random positions" using **an opening of the installation tool having (1) a width larger than the width of the studs and (2) a generally circular cross sectional form**. This subject matter described by Eromaki *is not found in the original*

*disclosure* and cannot therefore be relied upon to enable the subject matter of studs entering the installation tool at **random positions** with respect to the longitudinal center axis of the jaw fingers of the installation tool which is necessary for enablement of the subject matter of the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space. In short, if the first stud orientation never differs, rotation of the stud relative to the jaw fingers as the stud is driven through the capturing space will never occur.

The original disclosure describes feeding an anti-slip stud 20 by means of a plunger (page 19). Figures 16A-16D illustrate the stud being fed from a location above the top point 15 of the jaw fingers 3, 4, 5, 6 (figure 16A) to a location in the hole in the tread (figure 16D). This feeding arrangement shown in figures 16A to 16D of the original disclosure is substantially the same as that shown in figures 3-5 of Petterson. In figures 3-5, Petterson shows guiding the plunger 22 and a stud using a sleeve 25. However, the original disclosure fails to illustrate and/or describe what tool structure is used to feed the stud to the location illustrated in figure 16A. The original disclosure also fails to illustrate and/or describe what tool structure is used to guide the plunger 11 shown in figures 16A and 16D. The original disclosure fails to describe an opening of the installation tool having (1) a width larger than the width of the studs and (2) a

generally circular cross sectional form. Since the specification is silent as to tool structure used to feed the studs to the fingers, tool structure used to guide the plunger, and an opening of the installation tool having a width larger than the width of the studs and a generally circular cross sectional form the specification fails to teach how to obtain change in the orientation of the stud relative to the jaw fingers as the stud is driven through the stud capturing space.

It is acknowledged that the original disclosure describes installing studs in a tire tread such that they are in a predetermined stud orientation with respect to the rotational axis line of the tire. However, the original disclosure teaches obtaining this result either by rotating the fingers of the installation tool or using studs having different cermet piece orientations instead of by changing the orientation of the stud relative to the jaw fingers as the stud is driven through the stud capturing space. The original disclosure fails to provide any guidance to enable one of ordinary skill in the art as to the tool structure(s) (e.g. wider width generally circular opening) required for changing the orientation of the stud as the stud is driven through the stud capturing space. It is emphasized that the original disclosure provides insufficient information and illustration of the means used in addition to the fingers and plunger to create the function as claimed. It is noted that Figures 16A-16D fail to show any change in orientation / rotation of the stud as it is inserted into the recess.

7) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8) **Claims 1-6, 8-22 and 30-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettersson (US 3,385,742) in view of Ostrovskis (US 2002/0050312) and Russia (RU 2,152,318).**

Pettersson discloses a method for making a studded tire comprising: providing a motor vehicle tire 10 (pneumatic tire) having a tread; forming holes 11 in the tread; providing studs wherein each stud comprises a bottom flange 13, a neck 15, a bowl 15 and a tip 16 (figure 1); providing an installation tool having "a number of fingers" (col. 4 lines 16-17) such as three fingers 17, 18, 19; and using the installation tool to install the studs in the holes wherein the fingers are inserted in the hole, the stud is moved through the bore 20 of a sleeve 25 using plunger 22 such that the stud is pressed against the shoulders of the fingers to force the fingers radially outward when the stud flange 13 is sliding along the fingers into its bottom position in the hole between the end portions of the fingers; maintaining the plunger in contact with the stud and simultaneously withdrawing the fingers from the hole so that the plunger prevents withdrawal of the stud from the hole. The movement of plunger 22 is obtained using an "axial force". The fingers are "charged by a radial force against each other" because the fingers are forced open by the stud pressing against the fingers. The claims fail to require a larger radial force than that used in Pettersson. More specifically, the claims fail to require a larger radial force than that exerted by elastic ring 28a. As shown in figures 3-5, the fingers have narrowing tip portions. Pettersson states "... positioning a spike [stud] between the fingers and within the hole. Finally, the fingers are withdrawn

from the hole, permitting the wall of the hole to contract to its original shape and thereby firmly grip the spike to safely anchor the same in a correct position" (col. 1 lines 56-60). Hence, Pettersson teaches positioning the stud using the fingers and maintaining the position of the stud using material of the tread. Pettersson substantially discloses (1) the claimed combination of tire and studs and tool and (2) the claimed method of installing studs. Pettersson does not recite the stud having a bottom flange with *the claimed shape*.

Ostrovskis discloses a stud 1 for a motor vehicle tire comprising a bottom flange 2, a neck 3, a bowl 4 and a tip 5. See figure 1. The cross-sectional shape of the root (bottom flange 2) is out of round. The out of round shape may for example be oval or rounded rectangle. The cross-sectional shape of the upper part (tip 5, bowl 4) is also out of round. The longitudinal axis of the out or round root (flange) and the longitudinal axis of the upper part enclose an angle of for example 65-115 degrees. Ostrovskis teaches that the out of round bottom flange of the stud can be oriented in the tread such that tilting of the stud in the rubber under load conditions is reduced so as to reduce heating and aging of the tread rubber. Ostrovskis also discloses orienting the out of round tip in the tread so as to shorten braking distance and reduce traction. For installation of the stud in a tread, Ostrovskis teaches guiding the stud to the tread using a pipe (tube) having a cross section corresponding to the cross section of the stud so that the stud can be seated in the tread at the proper angular position.

Russia discloses a tire studding device comprising a charging tube, charging tube 11, lips 14 (fingers) for widening a hole in the tread of the tire, a pusher 16 with

drive to insert an anti-skid stud into the widened hole and a drive starter wherein the charging tube 11 is provided with guide members for orientation of the antiskid stud. The section profile of the tube 11 meets the section profile of the anti-skid stud. See abstract and figures and translation provided by applicant. The stud comprises a tip 5, body 1, and bottom flange 2. See figures 11 and 12. The stud may have a generally triangular cross-sectional shape (figure 11) or a generally rectangular cross sectional shape (figure 3). When installing a stud having a generally triangular cross section, Russia shows using three pushers 16 - one pusher for each side of the bottom flange. See figure 19.

As to claims 1, 16, 38 and 39, it would have been obvious to one of ordinary skill in the art to use "non-round" tire studs in Pettersson's process for installing studs in premade holes in a tire tread since (1) Ostrovskis, also disclosing a stud for a tire tread having a bottom flange, neck, top bowl and tip, suggests using **out of round cross-sectional shape (e.g. oval, rounded rectangle)** for the tip and bottom flange of a stud *to improve braking and traction of the tire and to prevent tilting of the stud to reduce heating and aging of the tread rubber* and (2) Russia teaches inserting **"out of round" studs** into premade holes in a tire tread *using an apparatus similar to that of Pettersson*. One of ordinary skill in the art would have had a reasonable expectation of success using Pettersson's stud installation tool to install out of round studs into premade holes. Pettersson and Ostrovskis both guide a stud through a tube toward the tread. Pettersson and Russia both guide a stud through a tube toward a tread with Russia additionally teaching installing out of round studs into premade holes using a

stud installation tool similar to that of Pettersson. Ostrovskis and Russia motivate one of ordinary skill in the art to use "non-round" tire studs in Pettersson's process for installing studs in premade holes in a tread. Ostrovskis for example motivates one of ordinary skill in the art to use non-round studs to improve braking and traction of the tire and to prevent tilting of the stud to reduce heating and aging of tread rubber.

As to claim 1: With respect to the number of first side portions and second side portions, the out of round cross-sectional shape (e.g. oval stud) suggested by Ostrovskis has two first side portions at a short distance from the stud center and two second side portions at a greater distance from the stud center. Alternatively, the out of round cross-sectional shape (e.g. generally rectangular stud) suggested by Russia has two first side portions at a short distance from the stud center and two second side portions at a greater distance from the stud center. Furthermore, it would have been obvious to one of ordinary skill in the art to use four fingers in Pettersson's stud installation tool in view of (1) Pettersson's teaching to use **"a number of fingers"** such as "three radially movable jaw fingers 17, 18, 19" in order to expand the wall of the hole into which the stud is inserted and optionally (2) Russia's suggestion to associate a pusher 16 / lip 14 for *each side* of an out of round stud (see figures 15-19). With respect to the fingers being in contact with at least two first side portions, Pettersson teaches pressing the bottom flange of the stud against the fingers so that the fingers expand. The use of four fingers instead of three fingers is amply suggested by Pettersson's teaching to use a number of fingers such as three. Pettersson is not limited to using only three fingers. One of ordinary skill in the art would readily

appreciate from Pettersson's disclosure to use fingers to expand the hole for the stud that the use of more than three fingers would facilitate expansion of the hole for the stud. The subject matter of the number of jaw fingers being equal to twice the number of second side portions of the stud and two jaw fingers being in contact with two first side portions of the stud is suggested by (A) Pettersson's teaching to contact the bottom flange of a stud with a number of fingers and (B) the out of round cross-sectional shaped bottom flange of the stud suggested by Ostrovskis and/or Russia. This is especially true in view of the teaching in Russia to associate a pusher 16 / lip 14 for *each side* of an out of round stud as suggested by figures 15-19.

As to claim 16: With respect to the number of first side portions and edge portions, the out of round cross-sectional shape (e.g. rounded rectangle) suggested by Ostrovskis has four side portions at a short distance from the stud center and four edge portions (rounded corners) at a greater distance from the stud center. Alternatively, the out of round cross-sectional shape (e.g. generally triangular) suggested by Ostrovskis has three first side portions at a short distance from the stud center and three edge portions (corners) at a greater distance from the stud center. It would have been obvious to one of ordinary skill in the art to use a number of fingers in Pettersson's stud installation tool equal to the number of edge portions in view of (1) Pettersson's teaching to use **"a number of fingers"** such as "three radially movable jaw fingers 17, 18, 19" in order to expand the wall of the hole into which the stud is inserted and (2) Russia's suggestion to use three pushers 16 / lips 14 for a generally triangular stud having three sides and three edge portions - i.e. associate a pusher 16 / lip 14 for each side of an out

of round stud (see figures 15-19). With respect to the fingers being in contact with at least two side portions, Pettersson teaches pressing the bottom flange of the stud against the fingers so that the fingers expand.

As to claims 38 and 39: With respect to oval or polygonal bottom flange, note the suggestion from Ostrovskis and Russia to use an out of round cross sectional shape; it being noted that Ostrovskis teaches using an out of round shape with straight sides (rounded rectangle) as an alternative to an out of round shape with only curved sides (oval). As to claim 38, it would have been obvious to one of ordinary skill in the art to **turn** Pettersson's stud installation tool such that the stud attains the second predetermined stud orientation since (1) Pettersson teaches moving the stud through the *guide bore* of a sleeve 25 and using the fingers to correctly position the stud and (2) Ostrovskis and Russia suggest turning a *guide tube* through which out of round studs are moved so that the out of round studs can be disposed in the tread of a tire at a desired orientation. The hard tip in the stud of each of Pettersson, Ostrovskis and Russia is in a constant position with respect to the bottom flange. As to using "cermet" for the hard tip, it would have been obvious to use cermet (e.g. sintered carbide) for the hard tip of the stud as claimed since it is taken as well known / conventional in the tire stud art to use "cermet" (e.g. carbide) for the tip of a tire stud (the cermet material secured in the stud by extending the cermet material a desired length through the body of the stud) so that the remainder of the tire stud can be made of a different material. The claimed non round shape of the tip is suggested by Ostrovskis and Russia. As to claim 39, it would have been obvious to one of ordinary skill in the art to use

Pettersson's stud installation tool to **install two types** of studs as claimed in view of Ostrovskis's teaching that different types of studs may be installed in the tire to obtain optimal force absorption in both straight ahead driving and curved travel to the left or the right. Ostroviskis and Russia suggests turning the tube having a guide bore to orient an out of round stud. Also, none of the claims requires orientation of the studs using jaw fingers without the need for a guide bore or injection pipe. The fingers in Pettersson orient the stud since Pettersson teaches sliding the stud along the fingers to the correct position.

With respect to the subject matter of "the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space", the following comments are made: The tips of Pettersson's fingers define a "stud capturing space", Ostrovskis (claim 12) teaches allowing "slight play" during guiding of the spikes (studs) through the pipe and figure 18 of Russia illustrates some "space" being provided between the guide tube 11 and the bottom flange of the stud. The slight play described by Ostrovskis and the slight space between the tube 11 and bottom flange 2 of the stud shown by Russia suggest configuring the bore of Petterson to permit such slight play when using non round studs. The claimed first / initial orientation reads on the stud having a slightly different orientation with respect to the

bore. Since Pettersson's fingers, which are expanded by the studs, have a fixed orientation, Pettersson's fingers are capable of at least slightly rotating a non-round stud. In other words, the capability of rotating the stud reads on the structure of (1) a guide pipe / tube which allows slight play between the interior surface of the guide pipe / tube as disclosed by Ostrovskis and Russia, (2) the fixed orientation of the fingers of Pettersson and (3) the capability of studs to contact and expand Pettersson's fingers. More importantly: Note the 112 first paragraph rejections. It appears that the 112 first paragraph rejection can only be overcome by deleting the subject matter of the at least one anti-slip stud entering the stud capturing space in a first stud orientation with respect to the center line and, by contact of each of the jaw fingers with ...the bottom flange, the at least one anti-slip stud is rotated about the stud center line relative to the jaw fingers from the first stud orientation to a second predetermined stud orientation, if the first stud orientation differs from the predetermined stud orientation, as the stud is driven through the stud capturing space. Finally, it is noted that "rotated" is interpreted as reading on merely partially rotating at any angle the stud instead of rotating the stud 360 degrees.

As to claim 2 (four fingers), see comments on claim 1.

As to claims 3 and 4, Ostrovskis suggests an oval shaped bottom flange.

As to claim 5, it would have been obvious to use hard cermet (e.g. sintered carbide) for the tip of the stud as claimed since it is taken as well known / conventional in the tire stud art to use "cermet" (e.g. carbide) for the tip of a tire stud (the cermet material secured in the stud by extending the cermet material a desired length through

the body of the stud) so that the remainder of the tire stud can be made of a different material. The claimed non round shape of the tip is suggested by Ostrovskis and/or Russia.

As to claim 6, Ostrovskis suggests orienting a non-round tip at an angle to the non-round flange.

As to claim 8, Pettersson suggests a circular premade hole. Russia also suggests using a premade hole.

As to claims 9-14 and 40, the claimed fingers read on Pettersson's fingers.

As to claim 15, see shape of bottom surface of the bottom flange in figures 1, 3, 4 of Pettersson. In any event: it would have been obvious to provide the bottom flange of the stud with a bevel as claimed since it is taken as well known / conventional per se in the tire stud art to provide the bottom flange of a tire stud with a bevel in order to facilitate insertion.

As to claims 17-22, note the non-round cross-sectional shape for the bottom flange and the non-round cross-sectional shape for the tip suggested by Ostrovskis and/or Russia. As to claim 21, note comments on claim 5.

As to claim 30, Pettersson suggests a circular premade hole. Russia also suggests using a premade hole.

As to claims 31-36 and 41, the claimed fingers read on Pettersson's fingers.

As to claim 37, see shape of bottom surface of bottom flange in figures 1, 3, 4 of Pettersson. In any event: it would have been obvious to provide the flange of the stud with a bevel as claimed since it is taken as well known / conventional per se in the tire

stud art to provide the bottom flange of the tire stud with a bevel in order to facilitate insertion.

9) **Claims 7-8 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettersson in view of Ostrovskis and Russia as applied above and further in view of Eromaki (US 6374886).**

As to claims 7-8 and 29-30, it would have been obvious to one of ordinary skill in the art to provide the premade hole with a bottom expansion / at least partly circular expansion as claimed in view of the suggestion from Eromaki, also directed to the tire stud art, to provide an at least partly circular premade hole in which a non-round stud is inserted with a bottom expansion.

10) **Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettersson in view of Ostrovskis and Russia as applied above and further in view of Finland 9/65 or Japan 407 (JP 56-146407).**

It would have been obvious to one of ordinary skill in the art to provide the tire stud with the claimed features as set forth in claims 23-28 in view of (1) the suggestion from Ostrovskis and Russia to use a non-round shape for the tip of the tire stud and (2) the specific non-round shape for the upper portion of a tire stud shown by Finland 9/65 (figure 2) or Japan 407 (figure 5).

Remarks

11) Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 6-30-08 have been fully considered but they are not persuasive.

The Eromaki 132 declaration filed 6-30-08 and Juhala 132 declaration filed 6-30-08 have been considered but are not persuasive. The original disclosure contains no foundation for "random positions".

Applicant's arguments regarding the 112 first paragraph rejections have been considered but are not persuasive for the following reasons: According to the original disclosure, the combination of the shape of the bottom flange and installation tool having different number of fingers attain orientation with respect to the rotational axis line of the tire by (1) rotating the fingers or (2) changing the type of stud used. The combination of the shape of the bottom flange of the stud and installation tool having different number of fingers is *key* in the fist embodiment because *when the tool is rotated*, a different orientation of the stud with respect to the rotational axis line of the tire is attained. The combination of the shape of the bottom flange of the stud and installation tool having different number of fingers is *key* in the second embodiment because *when different stud types are used*, a different orientation of the cermet piece of the stud with respect to the rotational axis line of the tire is attained. Description of the combination of the shape of the bottom flange and installation tool having different number of fingers fails to support random orientations of the stud in the stud capturing space.

Applicant points out that there is translation error on page 20 line 16. This comment is off point. The insertion of --in such a position, in which they are as-- in the

paragraph 20 is not new matter because page 20 describes "at least the jaw fingers 3, 4, 5, 6 of the installation tool 1 are rotated around their jaw center lines 10 for the measure of the toe-out angle K". Page 20 describes rotating the jaw fingers instead of providing random positions.

Applicant states: "The Office Action contends that the original disclosure merely describes installing studs in a tire in a predetermined orientation by rotating the fingers of the installation tool once the stud is inserted into a stud recess of the tire." (page 19 of response filed 6-30-08, emphasis added). This statement is incorrect. Examiner makes no such contention.

Applicant argues that figures 16A-16D illustrate the steps of the installation method. More properly, figures 16A-16D fail to illustrate rotation.

Applicant's arguments regarding the 103 rejection are not persuasive for the following reasons: Pettersson, Ostrovskis and Russia disclose guiding a stud using the same structure of a tube. In Ostrovskis and Russia, the tube also functions to orient a non-round stud. None of the claims exclude using a tube. With respect to "known for decades", Ostrovskis was published May 2002 and Russia was published July 2000. Elastic ring 28a of Pettersson applies a "radial force". None of the claims require a larger "radial force" than that exerted by elastic ring 28a. As to page 25 of applicant's response filed 6-30-08, applicant ignores the teaching in Pettersson, Ostrovskis and Russia to guide the stud using a tube. None of the claims exclude using a tube. Applicant's argument that elastic ring 28a is prohibited to cause any pressing force against the spikes is incorrect because the spike is forced against the fingers to expand

them. With respect to applicant's arguments regarding Russia, attention to directed to Petterson's teaching to contact the bottom flange of the stud with the fingers. In other words, the applied prior art suggests using non round studs in Petterson and shaping the tube, while allowing some play, to correspond to the shape of non round stud. The claims read on this modification of Petterson.

Applicant comments that the invention is being used to install about 300 million studs every year into about 3,000,000 tires and that no other company is believed to install non-round studs on a mass production basis. This "commercial success" argument is not persuasive because attorney argument cannot take the place of evidence in the record.

12) No claim is allowed.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
September 28, 2008